

Big and Little Turkey Lakes, Steuben and LaGrange Counties  
Supplemental Walleye Evaluations

Date of Survey: September 24 and October 1, 2009

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Objective: The objectives of these surveys were to evaluate survival of walleyes stocked into Big and Little Turkey lakes and to look for age-1 and age-2 naturally reproduced fish in Big Turkey Lake in accordance with work plan 300FW1F10D42617.

Methods: Fish collection effort consisted of 1.75 and 2.0 hours of pulsed D.C. nighttime electrofishing on Big and Little Turkey lakes respectively. On Big Turkey Lake, sampling was confined to the east shore and the outlet bay off the west shore due to weather conditions. On Little Turkey, approximately 95% of the shoreline was covered. Only walleyes were collected using two dip netters. Walleyes were measured to the nearest 0.1-in total length (TL) and weights were taken to the nearest 0.01 pound.

Summary: The Big Turkey Lake Property Owners Association began stocking advanced walleyes into Big Turkey Lake in the fall of 1998 (Table 1). This privately funded stocking of approximately 2,000 walleyes annually (4.5 per acre) continued through 2006. No stockings occurred in 2007 and 2008 but resumed in 2009.

During the 2009 fall electrofishing survey at Big Turkey, the water temperature was 70° F. Only four walleyes were collected ranging in length from 16.5 to 25 in TL. No age-1 or age-2 walleyes were collected.

In addition to the 2009 survey, similar fall surveys have been conducted at Big Turkey Lake from 2003 through 2007. Combined, a total of 68 age-1 and 27 age-2 walleyes were collected during these fall surveys (Table 2). The average length and weight of age-1 walleyes was 12.8 in TL and 0.66 pounds while the average length and weight of age-2 walleyes was 15.9 in TL and 1.24 pounds. These averages, along with back calculated lengths at each age, are comparable to other northern Indiana lakes.

The Little Turkey Lake Property Owner's Association funded walleye stockings for Little Turkey from 2005 through 2009. During this time period, between 500 (3.7 per acre) and 1,225 (9.1 per acre) advanced walleye fingerlings were stocked annually. These fish ranged from 5 to 8 in TL (Table 3).

During the Little Turkey Lake 2009 fall survey, only seven walleyes were collected. These fish ranged in length from 12.0 in TL (age-1) to 27.1 in TL (age-7 or 8). Three of these were age-1 fish (1.5 per electrofishing hour) from the 2008 stocking and one was age-2. The five-year old and older walleyes that were collected are likely migrants from upstream stockings at Big Turkey Lake. The water temperature at the time of the survey was 71° F.

The 2005 and 2006 walleye stockings at Little Turkey Lake were not evaluated. Based on the September 24 survey, the 2008 Little Turkey Lake stocking of 7.4 advanced walleyes per acre failed to meet the catch rate criteria for success of 4.2 per electrofishing hour. The 2007 stocking of 9.1 advanced walleyes per acre also failed while the overall walleye electrofishing catch for all ages was poor. Although Little Turkey Lake was not stocked at the preferred minimum rate of 10 per acre, these results were surprising. Based on personal communication and observations, walleye fishing on Little Turkey was exceptional in late May and June of 2008 and fair in 2009 for legal sized fish. Reports of good walleye fishing were also received for May of 2010.

Fisheries surveys at five other northern Indiana lakes were conducted to evaluate the survival of advance fall stocked walleyes. These include Crooked, Simonton, Sylvan, Wall and Winona lakes. Crooked Lake was stocked with 10 advanced walleyes per acre and the average electrofishing catch rate for age-1 walleyes was 11.3 per hour (Table 4). Simonton Lake has been stocked with an average of 6.1 advanced walleyes per acre. The catch rate for age-1 Simonton Lake walleyes averaged 5.6 per electrofishing hour. Sylvan and Winona lakes were stocked with 20 advanced walleyes per acre with average electrofishing catch rates for age-1 walleyes of 22.0 and 11.5 per hour respectively. A relatively low number of advanced walleyes were annually stocked at Big and Little Turkey lakes which are reflected in the average catch rate of 3.4 and 1.5 age -1 walleyes per electrofishing hour.

The historic contribution to the fishery from stocking advanced walleyes was determined in previous angler creel and general fish community surveys at Big Turkey Lake. During the 1999 creel survey, the first season following the initial stocking of 2,000 advanced walleyes, anglers caught and released 462 walleyes (Koza 2000). Walleyes from five year classes were also collected during the 2003 general fish community survey (Koza 2004). Of the 40 walleyes collected in 2003, at least one walleye was collected from each gill net that was fished throughout the lake during the week long survey.

The present walleye stocking effort by the local lake associations is providing fishing opportunities at the Turkey lakes and is certainly commendable. Potentially, these opportunities could be significantly improved if the stocking could be increase or increased. Unfortunately, the Division of Fish and Wildlife (DFW) is not in a position to take over this stocking or assist the lake association with their walleye stocking program at this time.

Further, from 2004 through 2008, the Little Turkey Lake walleye stockings occurred at the IDNR access site. This location is also where the outlet from Big Turkey enters Little Turkey. It's possible that newly stocked walleyes ran up this flowing stream channel into Big Turkey. Based on the catch of walleyes that are too old to be from the Little Turkey Lake stocking, it's obvious that walleyes move out of Big Turkey into Little Turkey and the opposite is certainly feasible, moreover this may be more likely to occur as overall population densities become higher and competition for food intensifies. In an attempt to address this concern, the 2009 walleye stocking into Little Turkey was moved away from this location. However, even moving to a new stocking location is no guarantee that migrating walleye will not be a limiting factor in establishing a consistent walleye fishery in Little Turkey Lake.

#### Recommendation:

To monitor these stockings and provide additional information to the statewide database, the DFW should continue to evaluate survival of fall stocked walleyes when time and manpower is available.

#### Literature Cited

Andrews, S., Committee Chairman 1994. Walleye management in Indiana. Committee Report. Indiana Division of Fish and Wildlife. Indianapolis, Indiana. 39 pp

Koza, Larry A., 2000. A survey of fish harvested at Big Turkey Lake. Indiana Department of Natural Resources, Indianapolis Indiana. 17 pp.

Koza, Larry A., 2004. Big Turkey Lake fish management report. Indiana Department of Natural Resources, Indianapolis, Indiana. 21 pp.

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Table 1. Big Turkey Lake walleye stockings, 1998 through 2009.

Date Stocked	# Stocked	Size (inches)
10/01/98	2,000	6
10/14/99	2,047	7-9
11/12/00	2,000	6-7
11/07/01	2,000	6-7
10/20/02	2,000	6-7
11/01/03	2,100	5-8
10/11/04	2,030	6-8
10/16/05	2,030	6-8
10/15/06	2,025	6-9
2007	None	
2008	None	
10/14/09	2,250	6-8

Note: The Big Turkey Lake Property Owners Association purchased these walleye from a private hatchery.

Table 2. Number, length and weight of age-1 and age-2 walleyes collected during fall nighttime D.C. electrofishing from Big Turkey Lake, Steuben County, 1990 through 2009.

Year	Age-1					Age-2				
	Number Collected	Length Range	Average Length	Weight Range	Average Weight	Number Collected	Length Range	Average Length	Weight Range	Average Weight
2003	2	11.9 – 12.0	12.0	0.40 – 0.53	0.51	2	16.5 – 16.6	16.6	1.28 – 1.38	1.33
2004	14	11.2 – 13.4	12.3	0.38 – 0.86	0.63	3	14.7 – 16.2	15.3	0.98 – 1.20	1.07
2005	21	12.2 – 14.3	13.2	0.50 – 0.88	0.74	6	15.4 – 16.6	15.8	0.93 – 1.28	1.18
2006	27	11.3 – 14.3	12.8	0.38 – 1.12	0.65	2	15.8 – 16.1	16.0	1.20 – 1.43	1.32
2007	4	12.5 – 13.4	13.0	0.74 – 0.85	0.80	14	15.3 – 16.5	16.0	1.20 – 1.46	1.27
2009	0					0				
Totals	68	11.2 – 14.3	12.8	0.38 – 1.12	0.66	27	14.7 – 16.6	15.9	0.93 – 1.38	1.24

Table 3. Little Turkey Lake Walleye Stockings, 2005 through 2009.

Date Stocked	# Stocked	Size (inches)
10/17/05	1,000	6-8
10/3/06	1,000	6-8
10/17/07	1,225	6-8
10/15/08	1,000	6-8
10/14/09	500	5-8

Note: The Little Turkey Lake Property Owners Association purchased these walleye from a private hatchery.

Table 4. Number of age-1 advanced fall stocked walleyes collected per nighttime DC electrofishing hour at Big Turkey, Crooked, Little Turkey, Pretty, Simonton, Sylvan, Wall and Winona lakes, 2001 through 2009.

Lake	Date Stocked	# Stocked	# Stocked Per Acre	Average Size or Range (Inches)	# of Age-1 Walleye Per Electrofishing Hour	Year Sampled
Big Turkey (450 ac)	10/20/02	2,000	4.4	5-7	0.5	2003
	11/01/03	2,100	4.7	5-8	3.5	2004
	10/11/04	2,030	4.5	6-8	5.3	2005
	10/16/05	2,030	4.5	6-8	6.8	2006
	10/15/06	2,025	4.5	6-9	1.0	2007
Average #/hr					3.4	
Crooked (802 ac)	9/25/01	7,860	9.8	7.6	16.5	2002
	9/27/02	8,080	10.1	6.9	9.5	2003
	10/03/03	7,881	9.8	6.8	7.0	2004
	10/06/04	8,020	10.0	6.5	15.9	2005
	10/04/05	8,020	10.0	6.5	7.4	2006
	9/28/06	8,070	10.1	6.9	12.9	2007
Average #/hr					11.5	
L. Turkey (135 ac)	10/17//02	1,225	9.1	6-8	3.4	2008
	10/15/03	1,000	7.4	6-8	1.5	2009
Average #/hr					2.5	
Pretty Lake (184 ac)	10/07/07	2,280	12.4	8.9	30.7	2008
Average #/hr					30.7	
Simonton (299 ac)	10/24/00	2,000	6.7	5-8	8.5	2001
	10/11/01	2,000	6.7	5-8	3.2	2002
	10/01/02	2,200	7.4	5-8	5.7	2003
	10/21/03	2,000	6.7	5-8	2.4	2004
	10/11/04	2,000	6.7	5-8	8.1	2005
	10/10/05	1,500	5.0	5-8	9.4	2006
	10/4/06	1,220	4.1	6-8	2.1	2007
Average #/hr					5.6	



Table 4 (continued)

Lake	Date Stocked	# Stocked	# Stocked Per Acre	Average Size or Range (Inches)	# of Age-1 Walleye Per Electrofishing Hour	Year Sampled
Sylvan (669 ac)	9/25 & 10/03/01	12,620	18.9	6.3	24.3	2002
	10/10 & 10/16/02	13,380	20.0	6.0	13.7	2003
	10/08 & 10/24/03	13,200	19.3	6.0	14.3	2004
	10/08 & 10/12/04	13,380	20.0	7.2	16.1	2005
	10/06 & 10/11/05	13,380	20.0	6.8	34.9	2006
	9/29 & 10/3/06	13,380	20	6.7	27.0	2007
	Average #/hr				22.0	
Wall (141 ac)	10/11/5	1,400	10	5-7	34.0	2006
	10/3/06	1,400	10	5-8	6.7	2007
	10/17/07	1,400	10	6-8	4.7	2008
	Average #/hr				15.1	
Winona (562 ac)	9/27/01	10,740	19.1	6.6	9.9	2002
	10/02 & 10/16/02	11,240	20.0	6.3	15.7	2003
	10/01 & 10/03/03	11,300	20.1	7.5	25.4	2004
	10/01 & 10/12/04	11,240	20.0	6.4	1.8	2005
	10/07 & 10/11/05	11,240	20.0	7.3	4.6	2006
	9/26 & 10/3/06	11,240	20	7.0	12.0	2007
	Average #/hr				11.6	